REMARKS

Applicants have carefully considered the July 21, 2006 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance.

In response to the Office Action dated July 21, 2006, claims 1, 5, 8, 12, 15, 19, 22, 26, 29 and 31 have been amended and claims 3, 10, 17, 24 and 30 have been cancelled. Claims 1 has been amended include the subject matter of claim 3. Claims 8, 15, 22 and 29 have been amended to introduce the limitations of claims 10, 17, 24 and 30, respectively. Claims 5, 12, 19, 26 and 31 have been amended for consistency in view of the amendments to the independent claims. Care has been exercised to avoid the introduction of new matter. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification. Applicants submit that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

Applicants respectfully request acknowledgement and consideration of the Information Disclosure Statement previously submitted on September 11, 2006.

Claims 1-6, 8-13, 15-20, 22-27, 29-32 and 34-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hebgen et al. (U.S. Pat. No. 6,711,332, hereinafter "Hebgen") in view of EP 1063542 A1 (the '542 application). Applicants respectfully traverse the rejection for the reasons outlined below.

Hebgen, at col. 9, lines 15-30, teaches a dispersion-compensating fiber (DCF) with a 100-km length, compensating for a non-zero dispersion shifted fiber (NZDSF), and commercially available as LEAF®. The accumulated chromatic dispersion of the Hebgen's DCF is –382 ps/nm (= –160 ps/nm/km × 2.39 km). On the other hand, the fiber loss of the Hebgen's DCF is 3.107 dB (= 1.3 dB/km × 2.39 km) because Hebgen teaches the loss of 1.3 dB/km at the wavelength of 1549 nm. See col. 11, line 60. However, the total insertion loss of a dispersion compensator includes a connection loss and a bending loss together with a fiber loss. Regarding characteristics of DCF, Hebgen does not teach or remotely suggest a connection loss and a bending loss while DCF is accommodated in a housing.

For the Examiner's convenience, a copy of an AVANEX catalog is attached hereto. In the attached AVANEX catalog, the dispersion compensator for 100km-LEAF has an accumulated dispersion of –382 km/nm, a *K* of less than 50 nm and an effective area of 15 μm^2. Applicants submit that these characteristics in the AVANEX catalog approximately correspond to those of the Hebgen's DCF. The total insertion loss of such a dispersion compensator is 7.3 dB, and it is clear that this dispersion compensator cannot achieve the present claimed insertion loss (for example, 3.9 dB or less). That is, even if the Hebgen's DCF is applied to a dispersion compensator shown in AVANEX catalog, it cannot be considered that the obtained dispersion compensator can achieve the claimed insertion loss. Thus, there is a factual basis of record to support the determination that the dispersion compensator disclosed by Hebgen is <u>not capable</u> of achieving the claimed insertion loss, thereby undermining the Examiner's notion of inherency.

The secondary reference to the '542 application does not cure the argued deficiencies of Hebgen. The Examiner relies on the disclosure of the '542 application for the teaching of a housing. Thus, even if the applied references are combined as suggested by the Examiner, and

Applicants do not agree that the requisite realistic motivation has been established, the claimed invention will not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

In view of the foregoing, Applicants respectfully submit that the rejection under 35 U.S.C. § 103 is not legally viable and should be withdrawn.

Claims 7, 14, 21, 28 and 33 were objected to as being allowable if recast in independent form. Applicants submit that for the reasons outlined above, all the pending claims are in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Brian K. Seidleck
Registration No. 51,321

Please recognize our Customer No. 20277 as our correspondence address.

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 BKS:idw
Facsimile: 202.756.8087
Date: December 21, 2006

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DCM® Modules for LEAF® Fiber, C-Band

AVANEX

0% Dispersion and Dispersion
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Based on negative dispersion compensation fiber technology, these modules are optimized for the transmission characteristics of LEAF® fiber. PowerForm™ DCM® Modules for LEAF® Fiber efficiently counteract the effects of chromatic dispersion across the C-Band wavelengths by providing optimal dispersion slope compensation. Standard modules are available with 1545 nm center wavelength, and dispersion values corresponding to typical transmission fiber lengths. Other center wavelength and dispersion values are available upon request. Standard packaging includes stand-alone module and network-ready rack versions.

ATURES

- Provides Optimized Dispersion Compensation Across the 1525 nm to 1565 nm Passband on Positive Non-Zero Dispersion Shifted Fibers such as LEAF®
- Enhances DWDM System Performance by Reducing Accumulated Residual Dispersion
- Discrete Module or FRU End User Ready Packaging Options
- Multiple Connector Types Available
- End-User Ready Rack Packaging Holds Two Standard Length Modules or One Extended Length LEAF® Fiber DCM® Module

PLICATIONS

- ITU-T G.655 Fiber Compensation
- Systems Using LEAF® Fiber or Other Positive Non-Zero Dispersion Shifted Fiber
- Long-Haul and Ultra Long-Haul Communications Systems Operating in the 1525 nm to 1565 nm Wavelength Range
- Multi-Channel High Bit-Rate DWDM Systems
- Longer Reach Metropolitan Networks

DEFINITION OF DISPERSION SLOPE COMPENSATION

To efficiently manage the dispersion and the dispersion slope of a transmission fiber, the dispersion compensating fiber should satisfy the following equation:

$$SC = \frac{K^{1545}_{NZDSF}}{K^{1545}_{DCF}} = \frac{\left(D^{1545}_{NZDSF} / S^{1545}_{NZDSF}\right)}{\left(D^{1545}_{DCF} / S^{1545}_{DCF}\right)} = 1$$

S^{1545}_{NZDSF}: Dispersion slope of NZ-DSF fiber @ 1545 nm.

D^{1545}_{NZDSF}: Dispersion of NZ-DSF fiber @ 1545 nm.

LEAF® fiber Typical Value of K^{1545}_{NZDSF} equals 45 nm.

POWERED by AVANEX

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AVANEX®

KEY OPTICAL PARAMETERS FOR COMMON MODULE LENGTHS

Module Description	Approximate Span Length Fiber (km)	Nominal Chromatic Dispersion (ps/nm @ 1545 nm)	Measured Dispersion[1] (ps/nm) @ 1530 nm		@ 1545 nm		@ 1565 nm	
			Min	Max	Min	Max	Min	Max
100% LC-10-38	10 km LEAF®	-38	-30	-22	-42	-34	-59	-51
100% LC-20-76	20 km LEAF®	-76	-57	-45	-82	-70	-116	-104
100% LC-40-153	40 km LEAF®	-153	-113	-91	-164	-142	-230	-209
100% LC-60-229	60 km LEAF®	-229	-169	-138	-224	-214	-345	-314
100% LC-80-305	80 km LEAF®	-305	-224	-185	-325	-286	-459	-419
100% LC-100-382	100 km LEAF®	-382	-280	-232	-406	-358	-573	-525
100% LC-120-458	120 km LEAF®	-458	-335	-278	-486	-430	-687	-630

Note 1: At room temperature.

SPECTRAL CHARACTERISTICS

Module Description	1545 Kappa[1] K_{NZDSF} (nm)	Insertion Loss[2] (dB)	Polarization Mode Dispersion[3] (ps)
100% LC-10-38	< 50	≤ 3.6	0.2
100% LC-20-76	< 50	≤ 3.9	0.3
100% LC-40-153	< 50	≤ 4.8	0.5
100% LC-60-229	< 50	≤ 5.6	0.6
100% LC-80-305	< 50	≤ 6.5	0.7
100% LC-100-382	< 50	≤ 7.3	0.8
100% LC-120-458	< 50	≤ 8.2	1.0

Note 1. Kappa is defined as D_{DCM}/S_{DCM}, where D refers to dispersion and S refers to dispersion slope of the module.

Note 2. This is the maximum optical loss incurred, end-of-life, over temperature, over wavelength range, and polarization including one pair of connectors.

Note 3. Linear mean differential group delay over wavelength range 1510 – 1565 nm, 1 nm step, using the Jones Matrix method at room temperature.

PowerForm™
DCM® Modules for LEAF® Fiber, C-Band

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NONLINEAR PROPERTIES

Nonlinear Coefficient (n_2/A_{eff})	1.75 x 10^{-3} W^{-1} (Typical)
Effective Area (A_{eff}) @ 1550 nm	15 μm^2 (Typical)

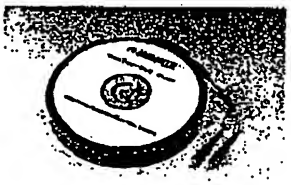
ENVIRONMENTAL CHARACTERISTICS

Operating Temperature Range	-5°C to 55°C
Storage Temperature Range	-40°C to 85°C

PACKAGING OPTIONS

Package Type[1]	Nominal Dimensions (mm)	Maximum Dispersion Compensation[4] (ps/nm) @ 1545 nm	Module Interface[2]		
			Standard Connector	Standard Pigtail Diameter	Length[3]
R 250x40	250 dia x 40	-486	SC/UPC	3 mm	1.5 m
1RU	442.0 x 279.4 x 43.6	(2) -267 or (1) -572	SC/UPC Bulkhead	N/A	N/A

Note 1. Other packaging types available upon request.
Note 2. Other pigtail and connector options available.
Note 3. Other diameters and heights available.
Note 4. For LEAF® Fiber.



R 250x40 Package

1RU Package

ORDERING INFORMATION

When ordering, please specify the following:
Module description
Compensated length (km) and/or requisite compensation (ps/nm)
Package type
Connector type/pigtail length

Performance figures contained in this document must be specifically confirmed in writing by Avanex before they become applicable to any particular order or contract. Avanex reserves the right to make changes to the products or information contained herein without notice.

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40919 Encyclopedia Circle Fremont, CA 94538 USA • Telephone 510-897-4188 • Fax 510-897-4189